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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,172	01/23/2004	Susimin Suprapmo	006404.P015	7856

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EXAMINER

PENDLETON, DIONNE

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/764,172

Applicant(s)

SUPRAPMO ET AL.

Examiner

Dionne H. Pendleton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,11,12,14,16-19,21,22,24-27,29,30,34-39 and 41-45 is/are rejected.
- 7) ☒ Claim(s) 6,8,10,13,15,20,23,31-33,38 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/2004; 2/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 17-19,24,41 and 42** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17-19 and 41,

The above cited claims, *as well as any claims dependent thereon*, recite that "the enclosure comprises four mutually perpendicular side walls, the...side walls being extended to comprise the intermediate column."

According to *page 6* of the Applicant's specification, the *extension* comprises four mutually perpendicular side walls being extended to comprise the intermediate column, *not the enclosure*. Furthermore, it is unclear to the Examiner, how the perpendicular side walls comprise the "intermediate" column. Correction and Clarification are required.

Please Note that Claim 24 is rejected to due to its' dependency upon rejected base claim 18.

Claim 42,

Recites the limitation "the outer column" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7,11,12,14,21,27,29,30,35 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by **Shaper (US 3,327,808)**.

Regarding claim 1, in **figure 3**, Shaper teaches a speaker comprising: an enclosure (*defined as the area existing between partition 42 and the front of loudspeaker 32*) with at least one wall 42;

an acoustic driver 32 attached to a front wall of the enclosure;

an acoustic extension (*see cylinders 33, 36 as well as the portion of cylinder 39 interposed between partition 42 and top cover 41*) being mounted to the enclosure;

the extension being external of the enclosure, and operatively connected to the interior of the enclosure.

Regarding claim 2, Shaper teaches that the acoustic extension 33,36,39 defines a serpentine passage (*see, the air passage defined by the windows 34,37 and 40*) operatively connected to the interior of the enclosure.

Regarding claim 3, Shaper teaches that a cylinder of the acoustic extension 33 is mounted in an opening in a rear wall of the enclosure and is generally coaxial with the acoustic driver.

Regarding claim 4, Shaper teaches a central stem **33**, a plurality of columns **36,39** each being generally concentric with the central stem **33**; the plurality of columns being mounted to an outer wall (see the wall to which cover **41** is attached), and an inner wall (wall **42** also serves to provide an inner wall for the extension) in an alternating and opposed manner to define there between an airflow passage operatively connected to the central stem and the interior.

Regarding claim 5, Shaper teaches an inner column **36** mounted to the outer wall (see the wall to which cover **41** is attached), and extending towards the inner wall (provided by article **42**), there being an air gap **37** between a free end of the inner column **36** and the inner wall **42**.

Regarding claim 7, Shaper teaches that the plurality of columns comprises an outer column **36**, which lies outside of central stem **33**, and is mounted to the outer wall (see the wall to which cover **41** is attached), and extending towards the inner wall **42**, there being an outlet air gap **36a** between the outer column and inner wall (*see that outlet air gap 36a serves to allow the flow of air out of window 34 and into space 38*).

Regarding claims 11 and 12, Shaper teaches the acoustic extension **33** mounted in an opening in a rear wall of the enclosure (*defined as the area existing between partition 42 and the front of loudspeaker 32*) and is generally coaxial with the acoustic driver.

Regarding claim 14, Shaper teaches that the central portion **33** of the acoustic extension is mounted in an opening in a rear wall of the enclosure, wherein the enclosure is defined as the area existing between partition **42** and the front of

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loudspeaker 32, and further wherein the extension is generally co-axial with the acoustic driver 32.

Regarding claim 21, Shaper teaches that the central stem 33 defines an air volume, the air volume and airflow passage being of a constant acoustic area.

Regarding claim 27, Shaper teaches that the central portion 33 of acoustic extension is a non-electrically driven surface which shares the same airspace as the loudspeaker 32, i.e., a passive radiator, thereby reading on "selected from the group consisting of: a bass reflex port, a tuned port, a passive radiator, and a concentric loading", as claimed.

Regarding claim 29, Shaper teaches an acoustic extension comprising:

A central stem 33;

a plurality of columns 36,39 generally concentric with the stem;

the plurality of columns being mounted to an outer wall (see the wall to which cover 41 is attached), and an inner wall (wall 42 provides an inner wall for the extension) in an alternating and opposed manner to define there between an airflow passage operatively connected to the central stem and the interior.

Regarding claim 30, Shaper teaches an inner column 36 mounted to the outer wall (see the wall to which cover 41 is attached), and extending towards the inner wall 42, there being an air gap 37 between a free end of the inner column and the inner wall.

Regarding claim 35, Shaper teaches that the central stem 33 defines an air volume, the air volume and airflow passage being of a constant acoustic area.

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Regarding claim 38, Shaper teaches that the central portion 33 of acoustic extension is a non-electrically driven surface which shares the same airspace as the loudspeaker 32, i.e., a passive radiator, thereby reading on "selected from the group consisting of: a bass reflex port, a tuned port, "a passive radiator", and a concentric loading", as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper** (US 3,327,808).

Regarding claim 9,

Shaper teaches the invention of claim 7.

Shaper does not specifically teach that the outlet air gap faces towards the enclosure. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to reconfigure the enclosure of Shaper such that curved air ports are substituted for the air apertures, thereby providing air outlets which face towards the enclosure, as an alternative design choice.

4. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Button (US 5,533,132)**.

Regarding claim 22,

SHAPER teaches the invention of claim 1.

SHAPER does not clearly teach that the enclosure and frame are made of heat conductive material.

BUTTON teaches, in **column 2, lines 38-47**, the construction of a loudspeaker assembly wherein the enclosure and speaker frame are constructed from thermally conductive metal such as die-cast aluminum.

It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the invention of Shaper per the teachings of Button, providing an enclosure and speaker frame constructed from heat conductive material such as die-cast aluminum, since said material is light in weight and the heat conductivity of the material provides a means for dissipating heat generated by the driver.

5. **Claims 16 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Takenaka (US 6,078,676)**.

Regarding claims 16 and 34,

SHAPER teaches the invention of claims 4 and 30.

SHAPER does not clearly teach that the junctions between columns are curved.

TAKENAKA teaches in **column 2, lines 46-51**, a sound passage provided with smooth curves. It would have been obvious for one of ordinary skill in the art at the time

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of the invention to combine the teachings of Shaper and Takenaka, providing a smoothly curved juncture between passages, thus avoiding deterioration in sound quality due to undesired resonance and also decreasing the degree of turbulent air current.

6. **Claims 25,26,36 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Tanaka (US 5,025,474)**.

Regarding claims 25,26,36 and 37,

SHAPER teaches the invention of claims 1,4 and 29.

SHAPER does not clearly teach that the stem portion of the acoustic extension (33) is adjustable relative to the enclosure. Nor does Shaper teach that the stem portion is removably attached.

However, in **column 10, lines 12-15**, TANAKA teaches an embodiment, **Figure 12b**, wherein a port tube extension **15b** is adjustable via screw threading; and in **column 10, lines 63-65**, Tanaka further teaches that the port tube is removable. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Shaper and Tanaka, providing a screw threading connection between the cylinder **33** and driver enclosure **42** in the Shaper reference, as said connection allows for variable frequency characteristics (see, the Tanaka reference).

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7. **Claims 39, 41 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Poling (US 7,039,212)** in view of **Button (US 5,533,132)**.

Regarding claim 39, figure 3 of POLING teaches an enclosure **301** with at least one wall; an acoustic driver **302** in a front wall of the enclosure; an acoustic extension **308** external of the enclosure, as claimed; the acoustic extension **308** having an outlet air gap **311** facing towards the enclosure to pass air over the enclosure.

Poling does not clearly teach that the enclosure and frame are made of heat conductive material.

BUTTON teaches, in **column 2, lines 38-47**, the construction of a loudspeaker assembly wherein the enclosure and speaker frame are constructed from thermally conductive metal such as die-cast aluminum.

It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the invention of Poling per the teachings of Button, providing an enclosure and speaker frame constructed from heat conductive material such as die-cast aluminum, since said material is light in weight and the heat conductivity of the material provides a means for dissipating heat generated by the driver.

Regarding claim 41, *as best understood with regard to the USC. 112 second paragraph rejection above*, Poling teaches that the enclosure comprises four mutually perpendicular side walls, the side walls being extended to comprise the intermediate column.

Regarding claim 45, Poling teaches that the acoustic extension is selected from the group consisting of; a bass reflex port, a tuned port, a passive radiator, and a concentric loading.

8. **Claims 43 and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Poling (US 7,039,212)** in view of **Button (US 5,533,132)**, as applied to claim 39, and further in view of **Tanaka (US 5,025,474)**.

Regarding claims 43 and 44,

The combination of Poling and Button teaches the invention of claim 39.

The combination does not clearly teach that the acoustic extension **33** is adjustable relative to the enclosure. The combination also fails to teach that the extension is removably attached.

However, in **column 10, lines 12-15**, TANAKA teaches an embodiment, in **Figure 12b**, wherein a port tube extension **15b** is adjustable via screw threading; and in **column 10, lines 63-65**, Tanaka further teaches that the port tube is removable. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Poling, Button and Tanaka, providing a screw threading connection between the extension **308** and driver enclosure **301** in the Poling reference, as said connection allows for variable frequency characteristics (see, the Tanaka reference).

Allowable Subject Matter

9. Claims 6,8,28,31-33 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10,13,15,20 and 23 are objected to due to their dependency upon objected to base claims.

Claims 6,8,31 and 33

Shaper fails to teach an acoustic extension comprising a central stem and plurality of columns, wherein the plurality of columns include an intermediate column.

Claim 28,

Shaper teaches a central stem mounted external to the enclosure and coaxial with the enclosure, therefore failing to be mounted in a lower side wall of the enclosure so as to function as a pedestal.

Claim 32

Shaper teaches that the outer column 39 is mounted to the inner wall 42, thereby failing to meet the limitation of "mounted to the outer wall and extending to...the inner wall..".

Claim 40

Poling fails to teach an acoustic extension comprising an inner column, intermediate column and outer column, as specifically described and interconnected in the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 9-5:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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